

Claims

What is claimed is:

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1. A magnetic transducer with an inductive write head comprising:

a gap layer extending from a write gap toward a back of a yoke;

a pedestal pole piece of ferromagnetic material which is in contact with the gap layer at a write gap, a back surface of the pedestal defining a zero throat height line;

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a first coil layer including a plurality of turns of electrically conductive material which pass between the pedestal pole piece and the back of the yoke, the turns of electrically conductive material of the first coil layer being separated by insulating material having sidewalls with a first seed layer thereon;

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a second coil layer including a plurality of turns of electrically conductive material which pass between a P2 pole piece and the back of the yoke, the turns of electrically conductive material of the second coil layer being separated by insulating material having sidewalls with a second seed layer thereon

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a third coil layer including a plurality of turns of electrically conductive material which pass between a P3 pole piece and the back of the yoke.

2. The magnetic transducer of claim 1 further comprising an adhesion layer between the first seed layer and the insulating material.

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3. The magnetic transducer of claim 2 wherein the adhesion layer is tantalum.

4. The magnetic transducer of claim 2 wherein the adhesion layer is tantalum nitride.

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5. The magnetic transducer of claim 1 wherein the first seed layer is copper.

6. The magnetic transducer of claim 1 wherein an aspect ratio of the first coil layer is greater than three.

7. The magnetic transducer of claim 1 wherein an aspect ratio of the first coil layer is approximately eight.

8. A disk drive comprising:

a disk having a thin film of ferromagnetic material on a planar surface of the disk;

10 a spindle rotatably supporting the disk;

an actuator supporting a magnetic transducer having an air bearing surface confronting the planar surface of the disk; and

the magnetic transducer including a write head comprising:

15 a pedestal pole piece of ferromagnetic material which is in contact with a gap layer at a write gap, a back surface of the pedestal defining a zero throat height line;

20 a first coil layer including a plurality of turns of electrically conductive material which pass between the pedestal pole piece and a back of a yoke, the turns of electrically conductive material of the first coil layer being separated by insulating material having sidewalls with a first seed layer thereon;

25 a second coil layer including a plurality of turns of electrically conductive material which pass between a P2 pole piece at the write gap and the back of the yoke, the turns of electrically conductive material of the second coil layer being separated by insulating material having sidewalls with a second seed layer thereon

a third coil layer including a plurality of turns of electrically conductive material which pass between a P3 pole piece connected to the P2 pole piece and the back of the yoke.

30 9. The disk drive of claim 8 wherein an aspect ratio of the first coil layer is greater than three.

10. The disk drive of claim 8 wherein an adhesion layer is disposed between the first seed layer and the insulating material.

5 11. The disk drive of claim 10 wherein the adhesion layer is tantalum.

12. The disk drive of claim 10 wherein the adhesion layer is tantalum.nitride.

13. The disk drive of claim 8 wherein the first seed layer is copper.

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14. The disk drive of claim 8 wherein an aspect ratio of the first coil layer is greater than three.

15 15. The disk drive of claim 8 wherein an aspect ratio of the first coil layer is approximately eight.